



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/087,699

03/01/2002

Kou-Joan Cheng

08919-074001

4883

69713 7590 05/27/2008
OCCHIUTI ROHLICEK & TSAO, LLP
10 FAWCETT STREET
CAMBRIDGE, MA 02138

EXAMINER

NAFF, DAVID M

ART UNIT

PAPER NUMBER

1657

NOTIFICATION DATE

DELIVERY MODE

05/27/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@ORTPATENT.COM

Office Action Summary	Application No. 10/087,699	Applicant(s) CHENG ET AL.	
	Examiner David M. Naff	Art Unit 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-11,13-16,18-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) 11,13-16,18-22 and 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8-10 and 27-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

An amendment of 1/9/08 amended claims 1, 11, 13, 18 and 24, canceled claims 12, 17 and 23, and added new claims 27-31.

Claims in the application are 1, 3-6, 8-11, 13-16, 18-22, and 24-
5 31.

Claims 11, 13-16, 18-22, and 24-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on
10 12/15/04.

Claims examined on the merits are 1, 3-6, 8-10 and 27-31.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

15 The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with
20 which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-6, 8-10 and 27-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey
25 to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Support is not found in the specification for a composition as required by claim 1 comprising a thermolabile protein admixed with a

dried liquor waste. The specification discloses a dried liquor waste only when using the dried liquor waste in a method as required by claim 11. There is no description of dried liquor waste in a composition, without carrying out the method of claim 11.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-6, 8-10 and 27-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are confusing and unclear as to the form of the claimed composition by claim 1 requiring a composition comprising a thermolabile protein admixed with a dried liquor waste since the specification fails to disclose this composition. The specification discloses a dried liquor waste only when using the dried liquor waste in a method as required by claim 11.

Claim 28 is unclear as to the meaning of "net of 0.64-cm mesh". How does "net" define the mesh?

Claim Rejections - 35 USC § 103

Claims 1, 3-6, 8-10 and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole (4,320,151) in view of Boinot et al (2,529,131) and Bass (3,983,255) and De Sa et al (4,337,123), and if

Art Unit: 1657

necessary in further view of Heikkila et al (5,730,877) for reasons in the previous office action of 9/11/07, and for reasons herein.

The claims are drawn to a composition containing a thermolabile protein, which can be an enzyme, admixed with a dried liquor waste.

5 Cole discloses increasing thermal stability of amylase by adding the enzyme to a concentrated sugar solution (col 6, lines 8-15). Solutions of 40-60% sucrose, dextrose, fructose, invert syrup and corn syrup protected amylase at 170⁰ F and 180⁰ F (col 8, lines 45-68 and Table 9, col 9). Cole further discloses that it had been previously
10 found in that prior art that 20-40% sucrose increased enzyme activity at 63⁰ C (about 145⁰ F) (col 4, lines 59-62).

Boinot et al disclose that vinasse (residue from distilling to produce alcohol that is a waste) (col 1, line 28) contains unfermentable sugar (col 1, lines 9-33), and converting the
15 unfermentable sugar to fermentable sugar (col 3, lines 48-61, and col 4, lines 33-38).

Bass discloses concentrating vinasse (molasses fermentation residues after distilling that is a waste) (col 1, lines 25-30) to 75-80% solids and drying the concentrate (col 3, line 44 and lines 55-58)
20 for use in animal food or fertilizer.

De Sa et al disclose that vinasse is a waste, which disposing of is a problem (col 1, line 20 to col 2, line 14).

Heikkila et al disclose that vinasse can be fractioned to obtain fractions rich in sucrose (col 1, lines 23-25).

It would have been obvious to use vinasse to supply the sugar in the sugar solution that amylase is added to stabilize the amylase during heating as disclosed by Cole as suggested by Boinot et al and Bass, and if needed Heikkila et al, disclosing that vinasse contains
5 sugar, and can be concentrated and dried, and as further suggested by De Sa et al disclosing that disposing of vinasse is a problem, and finding a use for vinasse will be of benefit. Vinasse is a liquor waste and mixing vinasse with the amylase of Cole will result in a composition as presently claimed. Using dried liquor waste would have
10 been obvious in view of Bass disclosing drying concentrated vinasse. It would have been obvious to dry vinasse before use to preserve the vinasse during storage and to reduce the cost of storage and shipment due to drying resulting in less volume of vinasse. The waste liquors of claims 3-5 would have been suggested by De Sa et al disclosing
15 fermentable plant materials including sorghum and hydrolyzed cellulosic materials that can be used in processes resulting in vinasse (col 2, lines 45-55).

Response to Arguments

The amendment urges that the claims require a composition
20 containing a thermolabile protein and a "dried" liquor waste, whereas the primary Cole reference uses an aqueous sugar solution for thermal protection of an enzyme. However, when using vinasse to provide the sugar solution of Cole as set forth in the rejection, it would have been obvious to use dried vinasse since this will be the form of
25 vinasse normally available due to the vinasse being dried for

preservation during storage and to reduce volume for shipping to
reduce shipping cost. Bass discloses concentrating and drying
vinasse, and the drying of vinasse before use would have been obvious
for storage and to reduce shipping cost. The present specification
5 fails to disclose an unexpected result from using dried vinasse as
compared to using liquid vinasse.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection
presented in this Office action. Accordingly, **THIS ACTION IS MADE**
10 **FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension
of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is
set to expire THREE MONTHS from the mailing date of this action. In
the event a first reply is filed within TWO MONTHS of the mailing date
15 of this final action and the advisory action is not mailed until after
the end of the THREE-MONTH shortened statutory period, then the
shortened statutory period will expire on the date the advisory action
is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be
calculated from the mailing date of the advisory action. In no event,
20 however, will the statutory period for reply expire later than SIX
MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier
communications from the examiner should be directed to David M. Naff
whose telephone number is 571-272-0920. The examiner can normally be
25 reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

5 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For
10 more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system,
15 call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M. Naff/
Primary Examiner, Art Unit
1657

DMN
5/20/08